

Amendments

In the Claims:

Please cancel claims 24-39, 43-100, 105-139 and 141-156. Please add the following new claims:

157. (new) An isolated polynucleotide comprising a first nucleic acid at least 90% identical to a reference nucleic acid selected from the group consisting of:

- (a) a nucleic acid consisting of nucleotides 839 to 1048 of SEQ ID NO:1;
- (b) a nucleic acid consisting of nucleotides 419 to 1420 of SEQ ID NO:1;
- (c) a nucleic acid consisting of nucleotides 416 to 1420 of SEQ ID NO:1;

and

(d) a nucleic acid consisting of the nucleotides encoding the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203072.

158. (new) The isolated polynucleotide of claim 157, wherein said first nucleic acid is at least 90% identical to a reference nucleic acid consisting of nucleotides 839 to 1048 of SEQ ID NO:1.

159. (new) The isolated polynucleotide of claim 158, wherein said first nucleic acid is at least 95% identical to a reference nucleic acid consisting of nucleotides 839 to 1048 of SEQ ID NO:1.

160. (new) The isolated polynucleotide of claim 159, comprising nucleotides 839 to 1048 of SEQ ID NO:1.

161. (new) The isolated polynucleotide of claim 157, wherein said first nucleic acid is at least 90% identical to a reference nucleic acid consisting of nucleotides 419 to 1420 of SEQ ID NO:1.

162. (new) The isolated polynucleotide of claim 161, wherein said first nucleic acid is at least 95% identical to a reference nucleic acid consisting of nucleotides 419 to 1420 of SEQ ID NO:1.

163. (new) The isolated polynucleotide of claim 162, comprising nucleotides 419 to 1420 of SEQ ID NO:1.

164. (new) The isolated polynucleotide of claim 157, wherein said first nucleic acid is at least 90% identical to a reference nucleic acid consisting of nucleotides 416 to 1420 of SEQ ID NO:1.

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165. (new) The isolated polynucleotide of claim 164, wherein said first nucleic acid is at least 95% identical to a reference nucleic acid consisting of nucleotides 416 to 1420 of SEQ ID NO:1.

166. (new) The isolated polynucleotide of claim 165, comprising nucleotides 416 to 1420 of SEQ ID NO:1.

167. (new) The isolated polynucleotide of claim 157, wherein said first nucleic acid is at least 90% identical to a reference nucleic acid consisting of the nucleotides encoding the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203072.

168. (new) The isolated polynucleotide of claim 167, wherein said first nucleic acid is at least 95% identical to a reference nucleic acid consisting of the nucleotides encoding the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203072.

169. (new) The isolated polynucleotide of claim 168, comprising the nucleotides encoding the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203072.

170. (new) The isolated polynucleotide of claim 157, further comprising a nucleotide sequence heterologous to said first nucleic acid.

171. (new) A method of producing a vector comprising inserting the isolated polynucleotide of claim 157 into a vector.

172. (new) A vector comprising the isolated polynucleotide of claim 157.

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173. (new) The vector of claim 172, wherein said first nucleic acid is operably associated with a heterologous sequence.

174. (new) The vector of claim 173, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

175. (new) A host cell comprising the isolated polynucleotide of claim 157.

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176. (new) The host cell of claim 175, wherein said first nucleic acid is operably associated with a heterologous sequence.

177. (new) The host cell of claim 176, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

178. (new) A method of producing a polypeptide comprising culturing the host cell of claim 175 under conditions such that a polypeptide is expressed, and recovering said polypeptide.

179. (new) A composition comprising the isolated polynucleotide of claim 157.

180. (new) An isolated polynucleotide comprising a nucleic acid encoding a first amino acid sequence at least 90% identical to a reference amino acid sequence selected from the group consisting of:

- (a) amino acids 142 to 211 of SEQ ID NO:2;
- (b) amino acids 2 to 335 of SEQ ID NO:2;
- (c) amino acids 1 to 335 of SEQ ID NO:2; and
- (d) the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203072.

181. (new) The isolated polynucleotide of claim 180, wherein said first amino acid sequence is at least 90% identical to amino acids 142 to 211 of SEQ ID NO:2.

182. (new) The isolated polynucleotide of claim 181, wherein said first amino acid sequence is at least 95% identical to amino acids 142 to 211 of SEQ ID NO:2.

183. (new) The isolated polynucleotide of claim 182, comprising a nucleic acid encoding amino acids 142 to 211 of SEQ ID NO:2.

184. (new) The isolated polynucleotide of claim 180, wherein said first amino acid sequence is at least 90% identical to amino acids 2 to 335 of SEQ ID NO:2.

185. (new) The isolated polynucleotide of claim 184, wherein said first amino acid sequence is at least 95% identical to amino acids 2 to 335 of SEQ ID NO:2.

186. (new) The isolated polynucleotide of claim 185, comprising a nucleic acid encoding amino acids 2 to 335 of SEQ ID NO:2.

187. (new) The isolated polynucleotide of claim 180, wherein said first amino acid sequence is at least 90% identical to amino acids 1 to 335 of SEQ ID NO:2.

188. (new) The isolated polynucleotide of claim 187, wherein said first amino acid sequence is at least 95% identical to amino acids 1 to 335 of SEQ ID NO:2.

189. (new) The isolated polynucleotide of claim 188, comprising a nucleic acid encoding amino acids 1 to 335 of SEQ ID NO:2.

190. (new) The isolated polynucleotide of claim 180, wherein said first amino acid sequence is at least 90% identical to the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203072.

191. (new) The isolated polynucleotide of claim 190, wherein said first amino acid sequence is at least 95% identical to the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203072.

192. (new) The isolated polynucleotide of claim 191, comprising a nucleic acid encoding the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203072.

193. (new) The isolated polynucleotide of claim 180, further comprising a nucleotide sequence heterologous to said nucleic acid.

194. (new) A method of producing a vector comprising inserting the isolated polynucleotide of claim 180 into a vector.

195. (new) A vector comprising the isolated polynucleotide of claim 180.

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196. (new) The vector of claim 195, wherein said first nucleic acid is operably associated with a heterologous sequence.

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197. (new) The vector of claim 196, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

198. (new) A host cell comprising the isolated polynucleotide of claim 180.

199. (new) The host cell of claim 198, wherein said first nucleic acid is operably associated with a heterologous sequence.

200. (new) The host cell of claim 199, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

201. (new) A method of producing a polypeptide comprising culturing the host cell of claim 198 under conditions such that a polypeptide is expressed, and recovering said polypeptide.

202. (new) A composition comprising the isolated polynucleotide of claim 180.

203. (new) An isolated polynucleotide comprising a nucleic acid encoding a fragment of SEQ ID NO:2 or a fragment of the amino acid sequence encoded by the cDNA clone in ATCC Deposit No. 203072; wherein said fragment regulates Prostate-Specific Antigen (PSA) gene expression; or the complement of said nucleic acid.

204. (new) The isolated polynucleotide of claim 203, further comprising a nucleotide sequence heterologous to said nucleic acid.

205. (new) A method of producing a vector comprising inserting the isolated polynucleotide of claim 203 into a vector.

206. (new) A vector comprising the isolated polynucleotide of claim 203.

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KB 207. (new) The vector of claim 206, wherein said first nucleic acid is operably associated with a heterologous sequence.

208. (new) The vector of claim 207, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

209. (new) A host cell comprising the isolated polynucleotide of claim 203.

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K19 210. (new) The host cell of claim 209, wherein said first nucleic acid is operably associated with a heterologous sequence.

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K20 211. (new) The host cell of claim 210, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

212. (new) A method of producing a polypeptide comprising culturing the host cell of claim 209 under conditions such that a polypeptide is expressed, and recovering said polypeptide.

213. (new) A composition comprising the isolated polynucleotide of claim 203.

214. (new) An isolated polynucleotide comprising a nucleic acid selected from the group consisting of:

- (a) a nucleic acid encoding amino acids 21 to 29 of SEQ ID NO:2;
- (b) a nucleic acid encoding amino acids 38 to 46 of SEQ ID NO:2;
- (c) a nucleic acid encoding amino acids 46 to 54 of SEQ ID NO:2;
- (d) a nucleic acid encoding amino acids 66 to 74 of SEQ ID NO:2;
- (e) a nucleic acid encoding amino acids 75 to 83 of SEQ ID NO:2;
- (f) a nucleic acid encoding amino acids 84 to 92 of SEQ ID NO:2;
- (g) a nucleic acid encoding amino acids 130 to 138 of SEQ ID NO:2;
- (h) a nucleic acid encoding amino acids 146 to 154 of SEQ ID NO:2;
- (i) a nucleic acid encoding amino acids 165 to 173 of SEQ ID NO:2;
- (j) a nucleic acid encoding amino acids 178 to 186 of SEQ ID NO:2;
- (k) a nucleic acid encoding amino acids 192 to 200 of SEQ ID NO:2;
- (l) a nucleic acid encoding amino acids 215 to 222 of SEQ ID NO:2;
- (m) a nucleic acid encoding amino acids 229 to 237 of SEQ ID NO:2; and
- (n) a nucleic acid encoding amino acids 234 to 242 of SEQ ID NO:2.

215. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid
is (a).

216. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid
is (b).

217. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid
is (c).

218. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid
is (d).

219. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid
is (e).

220. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid
is (f).

221. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid
is (g).

222. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid
is (h).

223. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid is (i).

224. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid is (j).

225. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid is (k).

226. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid is (l).

227. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid is (m).

228. (new) The isolated polynucleotide of claim 214, wherein said nucleic acid is (n).

229. (new) An isolated polynucleotide comprising a nucleic acid at least 95% identical to a nucleic acid encoding at least 100 contiguous amino acids of SEQ ID NO:2.

230. (new) The isolated polynucleotide of claim 229, comprising a nucleic acid encoding at least 100 contiguous amino acids of SEQ ID NO:2.

231. (new) An isolated polynucleotide comprising a nucleic acid at least 95% identical to a nucleic acid encoding at least 150 contiguous amino acids of SEQ ID NO:2.

232. (new) The isolated polynucleotide of claim 231, comprising a nucleic acid encoding at least 150 contiguous amino acids of SEQ ID NO:2.

233. (new) The isolated polynucleotide of claim 229, further comprising a nucleotide sequence heterologous to said nucleic acid.

234. (new) A method of producing a vector comprising inserting the isolated polynucleotide of claim 229 into a vector.

235. (new) A vector comprising the isolated polynucleotide of claim 229.

236. (new) The vector of claim 235, wherein said first nucleic acid is operably associated with a heterologous sequence.

237. (new) The vector of claim 236, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

238. (new) A host cell comprising the isolated polynucleotide of claim 229.

239. (new) The host cell of claim 238, wherein said first nucleic acid is operably associated with a heterologous sequence.

240. (new) The host cell of claim 239, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

241. (new) A method of producing a polypeptide comprising culturing the host cell of claim 238 under conditions such that a polypeptide is expressed, and recovering said polypeptide.

242. (new) A composition comprising the isolated polynucleotide of claim 229.

243. (new) An isolated polynucleotide comprising a first nucleic acid which hybridizes in a wash solution consisting of 0.1x SSC at 65 °C over the entire length of the first nucleic acid to a second nucleic acid selected from the group consisting of:

(a) a nucleic acid consisting of the coding region of the cDNA clone contained in ATCC Deposit No. 203072 or the complement thereof; and

(b) a nucleic acid consisting of the coding region of SEQ ID NO:1 or the complement thereof;

wherein said first nucleic acid is 600 or more nucleotides long.

244. (new) The isolated polynucleotide of claim 243, further comprising a nucleotide sequence heterologous to said first nucleic acid.

245. (new) A method of producing a vector comprising inserting the isolated polynucleotide of claim 243 into a vector.

246. (new) A vector comprising the isolated polynucleotide of claim 243.

247. (new) The vector of claim 246, wherein said first nucleic acid is operably associated with a heterologous sequence.

248. (new) The vector of claim 247, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

249. (new) A host cell comprising the isolated polynucleotide of claim 243.

250. (new) The host cell of claim 249, wherein said first nucleic acid is operably associated with a heterologous sequence.

251. (new) The host cell of claim 250, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

252. (new) An isolated polynucleotide comprising a nucleic acid encoding an amino acid sequence from position m to position n of SEQ ID NO:2, wherein m is an integer from 2 to 236, n is an integer from 243 to 335; and m is less than n.

253. (new) The isolated polynucleotide of claim 252, wherein said nucleic acid encodes an amino acid sequence at least 20 amino acids in length.

254. (new) The isolated polynucleotide of claim 252, further comprising a nucleotide sequence heterologous to said nucleic acid.

255. (new) A method of producing a vector comprising inserting the isolated polynucleotide of claim 252 into a vector.

256. (new) A vector comprising the isolated polynucleotide of claim 252.

257. (new) The vector of claim 256, wherein said first nucleic acid is operably associated with a heterologous sequence.

258. (new) The vector of claim 257, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

259. (new) A host cell comprising the isolated polynucleotide of claim 252.

260. (new) The host cell of claim 259, wherein said first nucleic acid is operably associated with a heterologous sequence.

261. (new) The host cell of claim 260, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

262. (new) A method of producing a polypeptide comprising culturing the host cell of claim 259 under conditions such that a polypeptide is expressed, and recovering said polypeptide.

263. (new) A composition comprising the isolated polynucleotide of claim 252.

264. (new) A polynucleotide comprising a nucleic acid fused to a nucleotide sequence heterologous to SEQ ID NO:1, wherein said heterologous nucleotide sequence

encodes a heterologous polypeptide, and wherein said nucleic acid is selected from the group consisting of:

- (a) a nucleic acid encoding amino acids 279 to 287 of SEQ ID NO:2;
- (b) a nucleic acid encoding amino acids 292 to 300 of SEQ ID NO:2;
- (c) a nucleic acid encoding amino acids 317 to 325 of SEQ ID NO:2;
- (d) a nucleic acid encoding amino acids 239 to 247 of SEQ ID NO:2;
- (e) a nucleic acid encoding amino acids 272 to 280 of SEQ ID NO:2; and
- (f) a nucleic acid encoding amino acids 248 to 331 of SEQ ID NO:2.

265. (new) The isolated polynucleotide of claim 264, wherein said nucleic acid encodes amino acids 279 to 287 of SEQ ID NO:2.

266. (new) The isolated polynucleotide of claim 264, wherein said nucleic acid encodes amino acids 292 to 300 of SEQ ID NO:2.

267. (new) The isolated polynucleotide of claim 264, wherein said nucleic acid encodes amino acids 317 to 325 of SEQ ID NO:2.

268. (new) The isolated polynucleotide of claim 264, wherein said nucleic acid encodes amino acids 239 to 247 of SEQ ID NO:2

269. (new) The isolated polynucleotide of claim 264, wherein said nucleic acid encodes amino acids 272 to 280 of SEQ ID NO:2.

270. (new) The isolated polynucleotide of claim 264, wherein said nucleic acid encodes amino acids 248 to 331 of SEQ ID NO:2.

271. (new) A method of producing a vector comprising inserting the isolated polynucleotide of claim 264 into a vector.

272. (new) A vector comprising the isolated polynucleotide of claim 264.

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273. (new) The vector of claim 272, wherein said nucleic acid is operably associated with a heterologous sequence.

274. (new) The vector of claim 273, wherein said heterologous sequence is selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

275. (new) A host cell comprising the isolated polynucleotide of claim 264.

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276. (new) The host cell of claim 275, wherein said nucleic acid is operably associated with a heterologous sequence.

277. (new) The host cell of claim 276, wherein said heterologous sequence selected from the group consisting of a promoter, a site for transcription initiation, a site for

transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

278. (new) A method of producing a polypeptide comprising culturing the host cell of claim 275 under conditions such that a polypeptide is expressed, and recovering said polypeptide.

279. (new) A composition comprising the isolated polynucleotide of claim 264.

280. (new) An isolated polynucleotide comprising a nucleic acid encoding at least 60 contiguous amino acids of SEQ ID NO:2;
wherein said nucleic acid is operably associated with a heterologous sequence selected from the group consisting of a promoter, a site for transcription initiation, a site for transcription termination, an enhancer, a Kozak sequence, an operator and a ribosome binding site.

281. (new) The isolated polynucleotide of claim 280, wherein said nucleic acid encodes at least 70 contiguous amino acids of SEQ ID NO:2.

282. (new) The isolated polynucleotide of claim 281, wherein said nucleic acid encodes at least 80 contiguous amino acids of SEQ ID NO:2.

283. (new) A method of producing a vector comprising inserting the isolated polynucleotide of claim 280 into a vector.

284. (new) A vector comprising the isolated polynucleotide of claim 280.

285. (new) A host cell comprising the isolated polynucleotide of claim 280.

286. (new) A method of producing the polypeptide encoded by the polynucleotide of claim 280, comprising culturing a host cell comprising said polynucleotide under conditions such that said polypeptide is expressed, and recovering said polypeptide.

287. (new) A composition comprising the isolated polynucleotide of claim 280 and a pharmaceutically acceptable carrier.

288. (new) A polynucleotide comprising a nucleic acid, wherein said nucleic acid is selected from the group consisting of:

- (a) a nucleic acid encoding amino acids 279 to 287 of SEQ ID NO:2;
- (b) a nucleic acid encoding amino acids 292 to 300 of SEQ ID NO:2;
- (c) a nucleic acid encoding amino acids 317 to 325 of SEQ ID NO:2;
- (d) a nucleic acid encoding amino acids 239 to 247 of SEQ ID NO:2;
- (e) a nucleic acid encoding amino acids 272 to 280 of SEQ ID NO:2; and
- (f) a nucleic acid encoding amino acids 248 to 331 of SEQ ID NO:2;

wherein said nucleic acid is operatively associated with a promoter to express said amino acids.

289. (new) The polynucleotide of claim 288, wherein said nucleic acid encodes amino acids 279 to 287 of SEQ ID NO:2.

290. (new) The polynucleotide of claim 288, wherein said nucleic acid encodes amino acids 292 to 300 of SEQ ID NO:2.

291. (new) The polynucleotide of claim 288, wherein said nucleic acid encodes amino acids 317 to 325 of SEQ ID NO:2.

292. (new) The polynucleotide of claim 288, wherein said nucleic acid encodes amino acids 239 to 247 of SEQ ID NO:2.

293. (new) The polynucleotide of claim 288, wherein said nucleic acid encodes amino acids 272 to 280 of SEQ ID NO:2.

294. (new) The polynucleotide of claim 288, wherein said nucleic acid encodes amino acids 248 to 331 of SEQ ID NO:2.